REMARKS

Claims 1-16 are now present in the application. Claim 1 has been amended and claims 13-16 have been added. Claims 1 and 13 are independent. Reconsideration of this application, as amended, is respectfully requested.

Information Disclosure Statement

Applicants acknowledge receipt of the initialed PTO-1449 Forms attached to the Information Disclosure Statements dated February 27, 2002 and May 30, 2002. However, an Information Disclosure Statement was also submitted on July 17, 2002. **It is respectfully requested that the Examiner initial the PTO-1449 Form attached to this Information Disclosure Statement and forward a copy with the next Office Communication.**

Election/Restriction

Applicants acknowledge the election of Group I, claims 1-11 in the reply to Restriction Requirement dated April 25, 2002. While not conceding the appropriateness of the Examiner's Restriction Requirement, if the remaining claims are found to be allowable, Applicant's will cancel non-elected claim 12 at that time. Applicants reserve the right to file a Divisional Application directed to the method of claim 9 at a later date if so desired.

Rejecti n Under 35 USC §112

Claims 1-11 stand rejected under 35 USC §112, second paragraph as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicant regards as the invention. This rejection is respectfully traversed.

The Examiner asserts that the recitation "a large number of tips" is a relative term which renders the claim indefinite. Applicant's respectfully submit that although the recitation "a large number of tips" is broad, the term is by no means indefinite. Contrary to the Examiner's assertion, the specification does provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would be reasonably apprised of the scope of the invention. The Examiner is directed to page 6, last paragraph through page 7, line 5 of the present specification where it is disclosed that the number of tips of the thermoplastic fibers exposed on the cleaning surface is such that the sheet 1 exhibits sufficient scouring or scraping properties against dirt on a soiled surface. Although claim 1 is not limited to a specific value, Applicants believe that one having ordinary skill in the art would readily understand the scope of the claim. However, it should be noted that the Specification also discloses preferred ranges for the number of the tips of thermoplastic fibers as well.

The Examiner also asserts that the recitation "present on" should be deleted. As the Examiner will note, the recitation "present on" has been changed to "of", so that claim 1 now recites "said cleaning sheet to have capability of scouring or scraping dirt off of a soiled surface."

In view of the above amendments and remarks, Applicants respectfully submit that claims 1-11 are definite and clear. Accordingly, reconsideration and withdrawal of the rejection under 35 USC §112, second paragraph are respectfully requested.

Rejections Under 35 USC §102 and 103

Claims 1 and 8 stand rejected under 35 USC §102(b) as being anticipated by Kobayashi et al (EP 0,926,288). Claims 1 and 3-8 stand rejected under 35 USC §103(a) as being unpatentable over Floden, U.S. Patent No. 3,837,995 in view of Kobayashi et al. Claims 9 and 10 stand rejected under 35 USC §103(a) as being unpatentable over Floden in view of Kobayashi et al as applied to claims 1 and 3-8 above, and further in view JP 2000212866. Claims 2 and 11 stand rejected under 35 USC §103(a) as being unpatentable over Floden in view of Kobayashi et al as applied to claims 1 and 3-8 above, and further in view of Kakiuchi et al, WO 01/52713. These rejections are respectfully traversed.

The present invention is directed to a cleaning sheet which includes 10 to 90% by weight of thermoplastic fibers and 10 to 90% by weight of cellulosic fibers. The thermoplastic fibers have a fiber length of 2 to 15mm and a fineness of 10 to 150 dtex. Furthermore, a large number of tips of said thermoplastic fibers are exposed on the surface of the cleaning sheet to have the capability of scouring or scraping dirt off of a soiled surface.

The cleaning sheet according to the present invention exhibits excellent scouring or scraping properties against soils. In addition, the cleaning sheet

according to the present invention does not scratch a surface to be clean. Applicants respectfully submit that the references relied on by the Examiner fail to teach or suggest the present invention and therefore are unable to accomplish the advantages of the present invention.

In particular, with regard to the Kobayashi et al reference, the Examiner asserts that this reference discloses a sheet material having thermoplastic fibers that may have the claimed length and diameter of the presently claimed invention. The Applicants respectfully submit that the Examiner is mistaken in the present case. Referring to paragraph [0011] of Kobayashi et al, the thermoplastic fibers are disclosed as being within the range of 0.1 to 0.8 d. Applicants respectfully submit that the fineness disclosed by Kobayashi et al is not within the range recited by independent claim 1 of the present invention. Independent claim 1 of the present invention requires "a fineness of 10 to 150 dtex." 10 to 150 dtex is converted to denier of 9.1 to 136 d. Since the presently claimed invention requires 9.1 to 136 d Applicants respectfully submit that the fineness of 0.1 to 0.8 d disclosed by Kobayashi et al is insufficient to anticipate independent claim 1 of the present invention. Accordingly, the Examiner's rejection in view of the Kobayashi et al reference is improper and should be withdrawn.

With regard to the Examiner's reliance of the combination of Floden and Kobayashi et al, Applicants respectfully submit that this combination of references also fails to render obvious the present invention. With regard to the Floden reference, this reference discloses a web which includes both synthesized

fibers having a diameter of 10 microns or less and natural fibers having a diameter between 10 and 50 microns. Applicants respectfully submit that the diameter of 10 microns or less is not within the recited range of "10 to 150 dtex" as recited by claim 1 of the present invention. Specifically, referring to column 2, lines 46-49 of Floden, a diameter of 2 to 6 microns is disclosed as being preferred. 2 to 6 microns converts to 0.03 to 0.3 dtex. In view of this, Floden fails to disclose the fineness recited by claim 1 of the present invention. Since the Kobayashi et al. Reference also fails to disclosed the fineness of the present invention, Applicants respectfully submit that the combination of references relied on by the Examiner are insufficient to render obvious the present invention.

The above conversion from microns will now be explained with reference to formula (1) below:

(1). dtex = radius * radius * π * 10000 * relative density

dtex is the weight of a fiber for 10000 m length of a fiber and the density of polypropylene is 0.91 g/cm^3. Accordingly, for example, a fiber having a diameter of 2 microns (radius of 1 micron), would have a dtex as follows:

(2). (0.0001 cm) * (0.0001 cm) * 3.14 * 10000 m * 0.91 g/ cm^3 = 0.029 dtex

In view of the above, it becomes clear that the Floden reference fails to disclose the fineness required by independent claim 1 of the present invention. Accordingly, the Examiner's rejection is improper and should be withdrawn.

In addition, referring to Col. 3, lines 70-74 and Col. 4, lines 39-41 of Floden, it is disclosed that the web is made from a melt blown material or a spun-

bonded material. Since Floden discloses an melt-blown or spun-bonded material, Applicant's respectfully submit that this material would inherently not have a large number of tips exposed on a surface of the web as is required by independent claim 1 of the present invention. In view of this, Floden's sheet cannot grind or scratch dirt off of the surface of an object. With regard to the specific example relied on by the Examiner which appears at Col. 4, lines 60-70 of Floden, the layers of material are woven layers which also would not have a number of tips exposed on a surface of a web sufficient to scour or scrape off dirt from a soiled surface as in the present invention.

Furthermore, with regard to the Kobayashi et al reference relied on by the Examiner, this reference fails to make up for the deficiencies of Floden, since this reference discloses a nonwoven fabric which is either wet-laid or melt-blown (see Col. 2, lines 5-15 and Claim 5 of Kobayashi et al). Accordingly, the nonwoven fabric of Kobayashi et al would also not have the number of tips exposed on the surface of the cleaning sheet as required by independent claim 1 of the present invention. Accordingly, the sheet material of Kobayashi et al would also not be capable of grinding or scratching dirt from an object as in the present invention.

In summary, the above-references differ from the present invention in view of the composition of the cleaning sheet required by independent claim 1 of the present invention. The references alone or in combination fail to teach or suggest the presently claimed invention. Accordingly, the advantages of the present invention cannot be accomplished by the references relied on. Specifically, the references do not disclosed the fineness of 10 to 150 dtex and do not have a

sufficient number of tips exposed on the surface to grind or scratch off any dirt from the surface of an object to the extent as in the present invention. Accordingly, the references relied on by the Examiner fail to anticipate or render obvious the presently claimed invention.

With regard to dependent claims 2-11, Applicants respectfully submit that these claims are allowable due to their dependence upon allowable independent claim 1, as well as for the additional limitations recited by these claims.

For example, dependent claim 3 requires that the cleaning sheet be formed by an air-laid web. Since neither of the reference relied on by the Examiner disclose an air-laid web, Applicants respectfully submit that the references fail to teach or suggest that invention according to claim 3. An air-laid web would have a different structure than that of the wet-laid or melt-blown webs of Kobayashi et al and Floden.

With regard to the Examiner's reliance on the J.P. '866 and WO '713 references, these references have been used to disclose the use of conjugate fibers or the use of crimped fibers and impregnating a sheet with an aqueous detergent comprising an electrolyte. Accordingly, these references fail to make up for the deficiencies of Kobayashi et al and Floden.

In view of the above amendments and remarks, Applicants respectfully submit that claims 1-11 clearly define the present invention over the references relied on by the Examiner. Accordingly, reconsideration and withdrawal of the rejections under 35 USC §102 and 103 are respectfully requested.

Additional Claims

Additional claims 13-16 have also been added for the Examiner's consideration. Applicants respectfully submit that independent claims 13 is allowable for the same reasons mentioned above with regard to independent claim 1. In addition, independent claim 13 requires that the number of tips exposed on the surface of the cleaning sheet be in the range of 20 to 4000/cm^2.

With regard to additional dependent claims 14-16, Applicants respectfully submit that these claims are allowable due to their dependence on allowable independent claim 13, as well as for the additional limitations recited by these claims.

Favorable consideration and allowance of additional claims 13-16 are respectfully requested.

CONCLUSION

Since the remaining references have not been utilized to reject the claims, but merely to show the state of the art, no further comments are deemed necessary with respect thereto.

If any questions remain regarding the above matters, please contact Applicant's representative Paul C. Lewis (Reg. No. 43,368), at the phone number listed below, to conduct an interview in an effort to expedite prosecution in connection with the present application.

Attached hereto is a marked-up version of the changes made to the application by this Amendment.

Applicants respectfully petition under the provisions of 37 C.F.R. § 1.136(a) and § 1.17 for a one-month extension of time in which to respond to the Examiner's Office Action. The Extension of Time Fee in the amount of **$110.00** is attached hereto.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37 C.F.R. §§ 1.16 or 1.17; particularly, extension of time fees.

Respectfully submitted,

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JWB/PCL

For #43,368

Attachment: Version with Makings to Show Changes Made

VERSION WITH MARKINGS TO SHOW CHANGES MADE

IN THE SPECIFICATION:

The paragraph beginning on page 11, line 19, has been amended as follows:

A second embodiment of the present invention will be illustrated with reference to Fig. 2. The second embodiment will be described in terms of differences from the first one. Otherwise the description about the first embodiment applies appropriately. The same members as in Fig. [1] 2 are given the same numerals as used in Fig. 1.

The paragraph beginning on page 12, line 8, has been amended as follows:

The thick thermoplastic fiber 2 content in the air-laid nonwoven fabric 5 preferably ranges 30 to 100% by weight, particularly 50 to 100% by weight, [especially 50 to 100% by weight,] to ensure capability of removing caked-on soils, such as denatured oil, baked substances and scale in a kitchen, and sebum, scale, soap scum, dust in a bathroom. Other fibers which constitute the air-laid nonwoven fabric 5 in addition to the thick thermoplastic fiber 2 include thermoplastic fibers having a fineness of 0.5 to 5 dtex, particularly 1 to 3 dtex, and a fiber length of 2 to 15 mm, particularly 3 to 8 mm (hereinafter referred to as thin thermoplastic fibers). The content of the thin thermoplastic fibers in the air-laid nonwoven fabric 5 is preferably 1 to 50% by weight, particularly 5 to 30% by weight. The combined use of such thin thermoplastic fibers with the thick

thermoplastic fibers 2 is preferred for decreasing the basis weight of the cleaning sheet 1 while retaining the scouring or scraping properties.

The paragraph beginning on page 14, line 7, has been amended as follows:

(1) A web comprising the cellulosic fibers 3 having a fiber length of 0.1 to 15 mm is formed by an air-lay method, and the constituent fibers are bonded by fusion or with a binder at their intersections to form a liquid retentive sheet 4. Separately, a web comprising the thick thermoplastic fibers [3] 2 is formed by an air-lay method, and the constituent fibers are bonded by fusion or with a binder at their intersections to form an air-laid nonwoven fabric 5. The air-laid nonwoven fabric 5 is superposed on one side of the liquid retentive sheet 4, and the two layers are united into one body by, for example, fusion bonding by heat embossing or ultrasonic embossing or with a hot-melt adhesive.

IN THE CLAIMS:

The claims have been amended as follows:

1. (Amended) A cleaning sheet which comprises 10 to 90% by weight of thermoplastic fibers having a fiber length of 2 to 15 mm and a fineness of 10 to 150 dtex and 10 to 90% by weight of cellulosic fibers, and has a large number of tips of said thermoplastic fibers exposed on the surface of said cleaning sheet to have capability of scouring or scraping dirt off [present on] of a soiled surface.

Claims 13-16 have b en add d.